

Successful treatment of unresponsive bowenoid papulosis in female patients with intralesional measles, mumps, rubella vaccine: A case series



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ABSTRACT

Bowenoid papulosis (BP) is a type of anogenital warts of benign proliferation caused by Human papillomavirus. Various therapeutic options available are topical imiquimod, podophyllotoxin, 5-fluorouracil, cryotherapy, radiofrequency, etc. However, few cases still remain unresponsive to ideal therapy. The current case series has not responded to the standard treatment modalities for which they were given intralesional immunotherapy using 0.5 mL of measles, mumps, and rubella (MMR) vaccine at a 3-week interval, and 90% to complete clearance was seen thereafter, and no reoccurrence even after follow-up of 5 months. Intralesional MMR vaccine can be used as immunotherapeutic modality in unresponsive BP as well as for the prevention of their reoccurrence.

Key words: Bowenoid papulosis; Inj measles; Mumps; Rubella

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INTRODUCTION

Bowenoid papulosis (BP) is a type of anogenital wart which tends to affect young, sexually active people. BP lesions are generally considered benign with a spontaneous regress in immunocompetent persons, although a small number (<1%) may transform into invasive squamous cell carcinoma especially in immunocompromised. It poses substantial psychological morbidity among patients. Various treatment modalities such as topical application of 5-fluorouracil or 5% imiquimod, podophyllin, ablative laser vaporization, electrofulguration, cryotherapy have shown variable rates of efficacy and are frequently associated with recurrences. Immunotherapy has shown promising results using Bacille Calmette-Guerin (BCG) vaccine, candida

antigen, Mw vaccine, and measles, mumps, and rubella (MMR) vaccine. This case series showed complete clearance of lesion with MMR vaccine among young females.

CASES

Since January 2024, 5 females of reproductive age (two married and three unmarried) presented with asymptomatic lesions over genital area in Dermatology Outpatient Department at our hospital. On examination, multiple, discrete, bilateral, well-demarcated, skin colored to hyperpigmented papular lesion of flat, smooth surface involving labia majora, labia minora, vestibular area, and perianal area were found. All patients gave a history of

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sexual contact. One female had multiple male partners. The serological tests for human immunodeficiency virus I/II and syphilis were negative. None of the patient gave a history of immunization against human papillomavirus (HPV). The patients were diagnosed clinically with anogenital wart-type BP, and multiple treatment was given with standard modalities like topical podophyllin resin, imiquimod cream 5%, topical fluorouracil, cryotherapy, and radiofrequency treatment with no successful results as lesions were not completely subsiding and were reoccurring too. Then these patients were given intralesional MMR vaccine at five different lesions with a single dose of 0.1 mL at each site amounting maximum dose of 0.5 mL at one session. The subsequent sessions were given 3 weeks apart, and number of sessions required is variable from 3 to maximum of 7. Complete clearance was seen among three patients with 80–90% clearance among two patients (Figure 1). No reoccurrence of lesions was seen even after 5 months follow-up (Table 1).

DISCUSSION

In 1978, T. R. Wade, Alfred W. Kopf, and A. Bernard Ackerman officially defined and named the condition



Figure 1: Pre and post 4 sessions of immunotherapy with intralesional measles, mumps, and rubella vaccine

bowenoid papulosis in the medical literature.¹ They examined genital lesions in young adults that resembled condylomas, lichen planus, or psoriasis. Histologic analysis revealed unequivocal features of Squamous cell carcinoma in situ (SCCIS). The authors subsequently named the condition, previously described by Lloyd, Kopf, and Bart, as BP. Although HPV 16 is considered as the causative agent other HPV serotypes such as 18, 31, 33, 39, and 52 have also been implicated of which 16, 18, and 33 are the most oncogenic strains.²

Clinically, the lesions are pigmented ranging in size from 0.2 to 3 mm resembling persistent warts. It can affect both males and females, the most frequent site affected in males is shaft of penis, and in females, it is vulva.

An ideal treatment option available for genital warts includes medical agents (e.g. imiquimod cream and podophyllotoxin), destructive methods (e.g. cryotherapy, electrocautery, and lasers), or surgical excision. These options are limited by a high rate of recurrence and side effects, such as pain and scarring. Intralesional immunotherapy has recently gained popularity in the treatment of refractory and reoccurring genital warts. It utilizes the ability of the immune system to mount a delayed-type hypersensitivity response to various antigens or wart tissue, leading to the production of Th1 cytokines which stimulate cytotoxic T cells and natural killer cells to eradicate HPV infection. This stimulated immune response has a potential to resolve the distant warts as well, and not the wart alone that has been primarily injected.³

Commonly used agents used for it includes Mw vaccine, BCG vaccine, the MMR vaccine, Candidial extract, and Trichophyton antigen. Immunotherapy using the MMR vaccine has been widely used for the treatment of cutaneous warts due to favorable results with reduced adverse effects and lower recurrence rates.⁴ The findings in our case series of BP further support the role of MMR

Table 1: Clinical profile and outcome of lesions of Bowenoid papulosis after immunotherapy with intralesional MMR vaccine

S. No.	Age (in years)	Duration of lesions	Site of involvement	No of lesions	No. of sittings taken of MMR inj.	Clearance of lesions
1.	18	6 weeks	Labia majora and perianal	13	4	Complete
2.	26	2 months	Labia majora and vestibular area	22	7	80%
3.	22	6 weeks	Perivulvar and perianal	Numerous	3	Complete
4.	17	4 months	Labia majora and labia minora	Numerous	4	Complete
5.	18	7 weeks	Labia majora and labia minora	20	6	90%

MMR: Measles, mumps, and rubella

vaccine immunotherapy as an effective and well-tolerated therapeutic option, demonstrating high clearance rates and minimal side effects.

CONCLUSION

The inexpensive and readily available MMR vaccine can be used as immunotherapeutic modality in patients of BP.

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